Title (en)

AIR SUCTION TYPE SMOKE SENSING FIRE DETECTION APPARATUS, METHOD AND DEVICE

Title (de)

RAUCHERFASSENDE BRANDDETEKTIONSEINRICHTUNG VOM LUFTANSAUGTYP, VERFAHREN UND VORRICHTUNG

Title (fr)

APPAREIL, PROCÉDÉ ET DISPOSITIF DE DÉTECTION D'INCENDIE À DÉTECTION DE FUMÉE DE TYPE À ASPIRATION D'AIR

Publication

EP 4092644 A4 20230809 (EN)

Application

EP 20921540 A 20201019

Priority

- CN 202010116032 A 20200225
- CN 2020121890 W 20201019

Abstract (en)

[origin: EP4092644A1] An aspirating smoke sensing device, method, and apparatus for fire detection are provided, and the device is provided with a charger (2), a charge collector (3), a controller (4), an air intake structure (1), and a negative pressure source for air path detection (9). The air intake structure (1) is communicated with an input port of the charger (2), an output port of the charger (2) is communicated with the charge collector (3), an output port of the charge collector (3) is communicated with the negative pressure source for air path detection (9), and the controller (4) is electrically connected to the charge collector (3). The air intake structure (1) is configured to obtain (S401) an air sample. The negative pressure source for air path detection (9) forms a negative pressure area in the charger (2), the charge collector (3), and pipelines, so as to draw (S402) the air sample obtained by the air intake structure (1) into the charger (2) and the charge collector (3). The charger (2) is configured to perform (S403) a unipolar charging on the air sample, so as to output a unipolar charged air sample. The charge collector (3) is configured to obtain (S404) the unipolar charged air sample, and separate charged particles with different particle-sizes in the unipolar charged air sample, so as to obtain charged particles of different particle-size grades. The controller is configured to determine (S405) fire detection information according to charge quantities corresponding to the charged particles of different particle-size grades.

IPC 8 full level

G08B 17/113 (2006.01); **G08B 17/11** (2006.01)

CPC (source: CN EP US)

B03C 3/017 (2013.01 - EP); **B03C 3/0175** (2013.01 - EP); **B03C 3/12** (2013.01 - EP); **B03C 3/41** (2013.01 - EP); **B03C 3/45** (2013.01 - US); **B03C 3/49** (2013.01 - EP); **G08B 17/10** (2013.01 - US); **G08B 17/11** (2013.01 - CN EP); **G08B 17/113** (2013.01 - CN); **G08B 17/12** (2013.01 - EP US); B03C 2201/06 (2013.01 - EP); B03C 2201/24 (2013.01 - EP)

Citation (search report)

- [Y] US 4053776 A 19771011 - HERTZBERG MARTIN, et al
- [Y] US 2008128609 A1 20080605 - MILLER RAANAN A [US], et al
- [A] US 2011298623 A1 20111208 - LENKEIT KURT [DE], et al
- [A] US 4967187 A 19901030 - DUMAS JEROME E [US], et al
- See also references of WO 2021169327A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

EP 4092644 A1 20221123; **EP 4092644 A4 20230809**; AU 2020431574 A1 20220818; AU 2020431574 B2 20231214; CN 111402540 A 20200710; CN 111402540 B 20210824; US 11961378 B2 20240416; US 2022366770 A1 20221117; WO 2021169327 A1 20210902

DOCDB simple family (application)

EP 20921540 A 20201019; AU 2020431574 A 20201019; CN 202010116032 A 20200225; CN 2020121890 W 20201019; US 202217870590 A 20220721